Spring 2009 Collaborative Decision Making Meeting Summary

San Diego, CA

April 22, 2009

EXECUTIVE SUMMARY

Thanks to everyone who participated in the Spring 2009 CDM Meeting on April 22—23! After the CDM Sub-team meetings on April 20—21, over 220 people joined the CSG and CDM Leadership in San Diego, CA for one of the most successful CDM Meetings to date!

Though CDM Meetings always bring a variety of organizations together, this particular meeting included participants from an exceptionally wide range of organizations. FAA attendees included personnel from the Regional Service Centers, System Operations Services, En Route and Oceanic Services, Terminal Services, and Technical Operations Services. Customer participation included representatives from airlines of various sizes, the business jet community, general aviation, and even international operator Lufthansa Cityline GmbH. Other international participation included representatives from the European Organisation for the Safety of Air Navigation (EUROCONTROL), German air navigation service provider DFS, Belgocontrol, NAV CANADA, and Aeronáutica Civil de Colombia. Other participants included vendors and developers, academia, and various other analysts.

On April 21, participants were broken into smaller groups to participate in "Sub-team Breakout Sessions." Each Sub-team rotated between rooms to provide a presentation and talk with smaller groups of attendees. The topics of discussion and style of briefings varied widely among sub-teams.

The FET discussions covered enhancement including Route Segmented Coded Departure Routes (RS-CDRs), Area Navigation (RNAV) Chokepoints, Route segment and RNAV Playbook routes, Collaborative Training and Collaborative Planning, and protected segments in Reroute Monitor (RRM).

The FCT participated in a spirited briefing and discussion with each of the groups on the System Enhancements for Versatile Electronic Negotiation (SEVEN) concept. This included a brief overview of SEVEN, a walkthrough of a hypothetical scenario based off a previous HiTL scenario, recent HiTL results, and the next steps for Concept SEVEN.

The GDPE breakout session included discussion of the interaction between Ground Delay Programs (GDPs) and Traffic Management Advisor (TMA), the Control by Time of Arrival (CbTA) concept including CbTA integration with TMA, Unified Ground Delay Programs (UDPs), and how principles of CDM will translate to NextGen.

The Surface CDM System Sub-team (SCT) discussed the SCS concept as well as the selection of a trial airport for the SCS. The presentation on SCS detailed why surface management is necessary and an overview of the existing systems examined by the SCT to help determine SCS requirements. The SCT Breakout Sessions also included a presentation by Dave Hogg of EUROCONTROL on Airport CDM.

The WET Breakout Session focused on the two tasks assigned to the WET by the CSG. The first was the evaluation and recommendation of 8-24 hour convective forecast product(s) for use in strategic planning. To this end the WET discussed the LCH prototype and encouraged attendees to both use the LCH and provide feedback this severe weather season. The second CSG task discussed by the WET was the recommendation to include Terminal Aerodrome Forecast (TAF) comments on the Operational Information System (OIS) Telcon Agenda page.

On April 22, attendees received updates on the state of CDM and participated in a series of Panel Discussions focused on a variety of topics. The first of these Panel Discussions was the "Surface Operations and Airport CDM Panel." This panel discussed the past, present, and future of EUROCONTROL's Airport CDM and the work of the SCT.

The TMA Panel participated in the second Panel Discussion of the day. The TMA Panel discussed the plan for the TMA program as well as the issues being encountered with the integration of TMA into existing traffic management initiatives (TMIs). The GDPE and TMA Workgroup used the CDM Meeting as an opportunity to form a joint team that will address these integration issues.

Third among the Panel Discussions was the CDM Sub-team Near Term Enhancements Panel. Discussion topics included CDM enhancements that will be released sometime in the next sixth months such as: the LCH, IPM Phase II, enhancements to the Integrated Collaborative Rerouting (ICR) process, override/split AFPs, RS-CDRs, and RNAV trajectories.

The final Panel Discussion was the System Operations Services Programs Office and Traffic Flow Management Modernization (TFM-M) Panel. This panel covered a number of tools and enhancements that will soon be released as well as an update on the status of TFM-M, the new Traffic Flow Management System (TFMS) release cycle, and the Air Traffic Control System Command Center move to Vint Hill.

Participants also received short briefings from Ellen King— Acting Director of System Operations, on Air Traffic Organization (ATO) 2013, Gary Tigert—FAA, on the Contingency Planning Support System (CPSS), and Kelly Moffitt—FAA, and Rob Williams—FAA, on En Route Automation Modernization.

Only through the dedication and hard work of everyone mentioned, as well as all CDM participants, was this meeting a success. The CSG and CDM Leadership look forward to your continued participation and assistance in making the Fall 2009 CDM Meeting an even greater triumph.

As a final note, the Spring 2009 CDM Meeting Breakout Session and Panel Discussion presentations can be found on the CDM web site (http://cdm.fly.faa.gov) under "CDM Info" then "CDM Meeting Minutes."

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BREAKOUT SESSIONS

On Wednesday April 22, 2009 each Collaborative Decision Making (CDM) Sub-team conducted a series of breakout sessions with smaller groups of the Spring 2009 CDM Meeting attendees. All five Sub-teams rotated through each breakout group as the day progressed. Each of the Sub-teams gave a presentation followed by discussion with the attendees. Summaries of these Breakout Sessions follow.

FLOW EVALUATION SUB-TEAM (FET) BREAKOUT SESSIONS

Pat Somersall, FAA FET Lead, and Mark Hopkins, Industry FET POC, provided the FET briefing and led the discussions during the FET Breakout Sessions. Topics of discussion included: Route Segment Coded Departure Routes (RS-CDR), protected route segments in Reroute Monitor (RRM), Area Navigation (RNAV) Chokepoints, Route Segment and RNAV Playbooks, Collaborative Planning and Collaborative Training.

FET Breakout Session Discussion Q & A

Q When flying an RS-CDR, will flights have to fly off-course to join an airway if there are no fixes on the airway at the last center and fix?

A Possibly. This issue already exists in some existing Coded Departure Routes (CDRs). These CDRs join airways at a point other than a fix.

Q What is the plan for reducing the RS-CDR phraseology? Has there been any thought to abbreviated clearances?

A "CDR.(truncation).LASTFIXOFCDR.NEXTFIXONROUTE.CLEARED AS FILED" is the current plan for the phraseology . In the future, there will be work to reduce this phraseology.

A The lack of abbreviated clearances would greatly increase the workload of both controller and pilot during congested times. The FET will check on this capability to find out whether abbreviated clearances can be used with RS-CDRs.

C The use of full end-to-end CDRs will not be completely eliminated by RS-CDRs. There will still be the need for end-to-end CDRs for some transcontinental flights.

C There was some confusion among the audience on why the FAA is moving away from the structured routes needed to bring flights into congested airspace (i.e. the New York metropolitan airspace).

Q The current plan is for the FAA to issue required routes for the entire route. If only a portion of that required route is protected, then why issue required routes beyond the protected segments?

A This question in addition to other protected segment procedures questions will need to be discussed and answered before the protected segments capability is implemented in fall 2010.

Q Since International Civil Aviation Organization (ICAO) standards require five letter waypoints and En Route Automation Modernization (ERAM) is moving towards ICAO flight plans, will it be possible to file Navigation Reference System (NRS) waypoints?

A Prior to ERAM implementation, international flights may have to fly the /A chokepoints as they cannot file the NRS waypoints and comply with ICAO standards. The FET will check to ensure that NRS waypoints will be useable with ERAM in the future.

Q While the blending of multiple west-east routes may resolve the constraint at VUZ, other sectors down the line may be affected if they have to blend in additional traffic. How might this be addressed?

A Reroute Impact Assessment (RRIA) will be extremely important to model the sector impacts of all reroutes prior to implementation. By using RRIA, traffic managers should be better able to avoid overloading sectors by issuing a reroute.

C Operator equipment must be considered as well before creation of any RNAV Playbook Routes. The navigational databases of each major operator must be able to handle a large portion of the NRS database in order for these routes to be effective.

C Moving forward with programs such as System Enhancements for Versatile Electronic Negotiation (SEVEN), data and software vendors may have to become more involved in the discussion. Unfortunately, many of the CDM Sub-team discussions are too focused to be of relevance to these vendors. Another CDM Industry Day was suggested in order to bring in the vendors and spell out the CDM processes in a way that can be used by the vendors. It is up to the operator however to provide the vendors with the needs to their operation. Mark Hopkins – Delta Airlines (DAL) and Loraine Sandusky – Continental Airlines (COA) agreed that the operators should meet and develop strategies on what to share with the industry vendors.

FUTURE CONCEPTS SUB-TEAM (FCT) BREAKOUT SESSIONS

The focus of the FCT breakout sessions was on System Enhancements for Versatile Electronic Negotiation (SEVEN). Seven members of the FCT participated in the breakout sessions, their names follow: Curt Kaler, FAA FCT Lead, Dan Allen, Industry FCT POC, Phil Bassett, FAA, Don Wolford, United Airlines (UAL), Mike Murphy, FAA, Dave Winters, NetJets, and Mark Klopfenstein, Metron Aviation.

After a brief introduction, the FCT presentation touched on the support behind SEVEN among FAA management before describing how SEVEN will work towards NextGen goals. Some of the basic functionality of SEVEN was explained to the attendees prior to a walkthrough of a hypothetical SEVEN scenario based on a March SEVEN Human-in-The-Loop (HiTL) test. The results of the March HiTL were provided to the attendees along with a description of past HiTL and the next steps for SEVEN. The FCT members then participated in discussions on SEVEN with the breakout session attendees.

FCT Breakout Session Discussion Q & A

Q How is airspace capacity rationed?

A SEVEN uses a "ration by schedule" (RBS) algorithm similar to that used in Airspace Flow Programs (AFPs) to allocate capacity. When allocating capacity, the RBS algorithm considers flights in the order they are scheduled to enter the SEVEN Flow Constrained Area (FCA). Each flight is then provided its lowest available Relative Trajectory Cost (RTC) route.

Q What is RTC?

A RTC is a way for operators to prioritize routes for a flight while allowing for two routes to hold an equal priority. RTC is measured in delay minutes and is not a cost in the monetary sense but rather a value which operators can have calculated by their flight planning software.

Q How does SEVEN handle pop-ups?

A The precise method with which RBS will deal with pop-up flights remains a topic of intense research and discussion within the FCT.

Q How will SEVEN interface with other traffic management initiatives (TMIs)?

A SEVEN will follow other TMI restrictions. For example, in a Ground Delay Program (GDP), SEVEN will maintain the GDP Controlled Time of Arrival (CTA) while attempting to include the flight in the resource. The lowest trajectory cost option will still be assigned, but the Trajectory Option Set (TOS) will be reduced to options that arrive at the CTA. If no such option satisfies the SEVEN constraint, the flight will be treated as exempt from SEVEN. SEVEN is being designed to replace the use of AFP and the two tools will likely never be used concurrently. SEVEN may also be able to replace the use of miles-in-trail (MIT) restrictions by reducing demand through an impacted airspace.

Q How will flights be affected by multiple SEVEN FCAs?

A When multiple FCAs are in place, flights filed through one FCA may be provided a route that sends them through another. If demand through the second FCA is "dialed down" enough to force those flights to move again, they can moved to options outside of the second FCA *only* if they are not moved to a higher trajectory cost option that places them back in the first FCA. These flights may return to the first FCA if the demand in the first FCA is "dialed up" sufficiently to allow the flights a lower trajectory cost option.

A If a trajectory option includes a route passing through multiple FCAs, capacity must be available in all FCAs for the option to be valid. SEVEN will select the lowest trajectory cost option that meets all SEVEN constraints.

Q When using the Set & Hold feature of SEVEN, will traffic managers be able to "set it and forget it?" e.g., will a traffic manager be able to leave a time period unmonitored if Set & Hold is enabled?

A No, traffic managers will need to continue monitoring the FCA for any needed refinements to the demand rate.

Q What weather forecast tools are utilized during the planning portion of HiTL scenarios?

A At this time, weather forecast tools are not used much during HiTLs.

Q How will delays be assigned by SEVEN?

A SEVEN will assign delays by sending an Expect Departure Clearance Time (EDCT) to affected flights.

Q If a flight is awarded a trajectory option other than their lowest RTC option, how will that information be submitted to the ERAM Host?

A It will be the responsibility of the operator to submit any Traffic Flow Management System (TFMS) awarded route into the Host.

Q How early can operators begin submitting a TOS?

A Operators can submit a TOS for a flight as soon as TFMS is notified of the flight's existence.

Q Has there been any planning for SEVEN to display to operators the probability of receiving a trajectory option?

A Though this has been discussed, the functionality is not likely to be developed as any "dial ups" or "dial downs" the FAA performs will significantly change the probability of a flight receiving a route.

Q When will the trajectory options awarded by TFMS be provided to the pilot? To the Terminal Radar Approach Control (TRACON) or Air Route Traffic Control Center (ARTCC)?

A Each operator will be able to set a minimum notification time (MNT) after which a flight's trajectory option will be final. Pilots would be notified at the MNT. TRACONs or ARTCCs would be able to use SEVEN to view the route assigned to the flight at any time.

Q The FCT Breakout presentation showed a Fall 2009 release for the web application for SEVEN (Web SEVEN). Does this mean SEVEN will be running in Fall 2009?

A No. The Fall 2009 "release" of Web SEVEN will be for use in HiTLs. This will allow personnel to participate in HiTL remotely.

C If Breakout Sessions are included in future CDM Meetings, the FET should precede the FCT as much as possible.

C The FCT should attempt to include En Route and Oceanic Services (AJE) in the development of SEVEN.

C Ralph Tamburro – Traffic Management Officer (TMO) New York TRACON (N90), informed the FCT that a route negotiation concept will be tested for departures from the New York metro airports over Summer 2009.

GROUND DELAY PROGRAM ENHANCEMENT SUB-TEAM (GDPE) BREAKOUT SESSIONS

Ed Gannon, FAA GDPE Lead, and Charlie Mead, Industry GDPE POC, lead the GDPE Breakout Session briefings and discussions. The GDPE Breakout Sessions covered a number of topics including: Traffic Management Advisor (TMA) interaction with GDPs, Control by Control Time of Arrival (CbTA), CDM principles in NextGen and System Wide Information Management (SWIM), and Unified Ground Delay Program (UDP).

GPDE Breakout Session Discussion Q & A

C TMA was not designed in the CDM world. Therefore, it was not designed to consider equity like CDM programs. Each airport needs to be treated differently with creating the freeze horizons. Las Vegas' freeze horizon will be different than Newark's freeze horizon. The solution will have to account for geographical differences.

Q Are we looking to see if TMA and Flight Schedule Monitor (FSM) will communicate with each other?

A Yes, the ultimate goal is to have both systems working together with the same times. A small subgroup was created to research automation between the two programs and to discuss what times should be used.

Q Newark-Liberty International Airport (EWR) seems to be using GDPs all the time, is this issue more of a scheduling problem?

A No, GDPs are used to help with the excess demand caused by a constraint.

Q In Belgium, there are technical planning groups that review traffic flows from six months to one month before the flight, then from seven days to the day of the flight. Three hours before the flight, the customer is given all the flight information. In the U.S., how far in advance does the customer get the flight information?

A There is no set time at which the customer will receive flight information. It is dependent on weather and other constraints in the system. GDPs are normally created about one hour in advanced and are considered slot based. Many of Europe's large airports are slot based, where as the U.S. only has three slot based airports..

Q How does TMA deal with two aircraft with the same arrival time?

A TMA uses the aircraft's altitude, speed, current wind conditions and times to calculate if one aircraft will actually arrive earlier than the other. It will then sequence them accordingly.

Q How does flying direct to a fix or airport affect GDPs?

A Under a GDP, when a pilot requests direct clearance and a controller approves, the integrity of that GDP may be compromised. When implemented, a GDP will assign an arrival slot to each flight it captures. These arrival slots are enforced by issuing each captured flight an EDCT which is determined by subtracting the Estimated Time En Route (ETE) from the assigned GDP slot time. Thus, even if a flight complies

with its EDCT, if it then flies direct the time en route will be shorter than the ETE and the flight will arrive before its slot time. This can lead to significant variation in the rate at which flights arrive at the impacted airports.

Q In order to account for small deviations in arrival times under CbTA operations, how long will the window be around the Control Time of Arrival (CTA)?

A The acceptable window for a flight to meet its CTA has yet to be determined. CbTA is still a concept in development. There will be testing and experiments in Summer 2009 to better determine the constraints.

C Customers are concerned by the fact that they are not being informed where the TMA freeze horizons are. While TMA arcs and freeze horizons are built on sector boundaries, customers use fixes and points in FSM to build their own metering points. There needs to be some discussion on this issue before CbTA will work.

Q Is there a timeline for CbTA?

A Yes, testing and analysis is scheduled for Summer 2009 to determine the feasibility of the concept. Some airlines are already using similar methods for internal controls.

C It was mentioned that the Air Traffic Safety Oversight Service (AOV) needs to be aware of the CbTA concept and a Safety Risk Management (SRM) process needs to be performed to encompass all airports.

Q For CbTA, what kind of measure would a pilot be able to take to meet their times?

A The FAA expects pilots to moderate air speed throughout their flights. It is not the intent of CbTA for a flight to increase air speed early en route and decrease air speed as the flight progresses. Flexibility for potential airborne reroutes and weather constraints must be maintained.

Q In CbTA operations, is the Required Time of Arrival (RTA) provided to pilots meant to improve interaction between GDP and TMA?

A Yes, RTA will create a smoother traffic flow to the TMA freeze horizon and other points in the National Airspace System (NAS). It will also better allow aircraft on the ground to depart into an overhead flow.

Q How is the system going to maintain a gap for an aircraft using CbTA?

A The details of CbTA still need to be worked out.

C There was a concern that pilots will not be able to make their times. They do not always listen to dispatchers so times might not be met. It's very important that pilots support the concept. This is what will make CbTA successful.

Q Is CbTA intended to be implemented when there are weather constraints?

A Yes, that is currently how most TMIs work.

Q Where are the en route times obtained?

A En route times come from pilots. FSM also gets updates from CDM participants on flight times.

C The Department of Transportation (DoT) provides data for the frequency of on-time arrivals/departures of flights. The GDPE needs to determine what data the DoT is collecting and work with the DoT to ensure the concept of CbTA does not skew these numbers.

C Universal Delay Programs (UDPs) will not be implemented until after Release 4 of ERAM. Currently, general aviation (GA) flight plans are not sent to Air Traffic Control until two hours before the flight, even if they are submitted hours or days in advanced. This puts GA flights at a disadvantage during ground delay programs. An agreement has been made with the National Business Aviation Association (NBAA) that UDPs will not be implemented until after the issue is fixed.

Q Why is the GDPE workgroup trying to change the whole system instead of using what they have by changing the components within FSM and TMA? How long will all these changes take? How far will TMA coupling go?

A Lack of compliance is a major issue and with the current programs, compliance issues will not be fixed. Departure rate compliance is currently at approximately 60% while arrival rate compliance is in the 20 – 30% range. CbTA will increase arrival compliance. CbTA will not be implemented immediately as it is still in the research and development stage. As more TMA sites come online controller workload will increase. For CbTA to be successful, some of the responsibility will fall to the pilots.

Q Can we tie international flights into this concept?

A Yes, many international flights work on a slot basis outside of the U.S. There may be technological issues that need to be resolved in providing international flights their arrival times.

WEATHER EVALUATION SUB-TEAM (WET) BREAKOUT SESSIONS

Dean Fulmer, FAA WET Lead, and Tom Fahey, Industry WET POC, presented some of the current work being performed by the WET. This work focuses on two primary tasks assigned by the CDM Stakeholders Group (CSG). The first task assigned to the WET by the CSG is to evaluate and recommend an 8-24 hour convective forecast product(s) to be used for operations plan development and Strategic Planning Telcon (SPT). The second primary task assigned by the CSG is to recommend a process and format for the aviation meteorological community to present forecasted airport weather condition information for use in operations plan development and SPTs.

WET Breakout Session Discussion Q & A

Q How do you plan on deploying Local Area Model Output Statistic Product (LAMP) – Collaborative Convective Forecast Product (CCFP) Hybrid (LCH)?

A The LCH is already available on the following web site (http://www.lampccfp-hybrid.com/). There will be a demonstration and evaluation program June 1, 2009 – September 30, 2009.

C It was suggested that the mouse-over LAMP probability capability be included in the LCH map.

A This functionality will be included in the "want" list.

C It was suggested that users be able to customize the transparency setting of the CCFP boxes in the LCH map.

A This functionality will be included in the "want" list.

Q Does LAMP software learn? Does it score itself with verification like the Corridor Integrated Weather System (CIWS) and adjust the algorithms?

A The capability to learn from prior forecasts and actual weather has not yet been included in the LAMP.

Q Could LAMP score itself? Does the LCH evaluate its own accuracy? Is there any verification?

A The verification for LCH will not take place in real time. Verification studies will be performed by the National Oceanic & Atmospheric Administration (NOAA) Earth Sciences Research Laboratory (ESRL) this year.

C It seems misleading that the weather moves at the same speed for a one hour prediction as the two hour prediction. Perhaps a slightly longer lag time for the two hour predictions would indicate a more accurate forecast of time.

A This functionality will be included in the "want" list.

Q Is there any scale of confidence factor for certain weather scenarios?

A Reliability of LCH will be part of the verification study performed by ESRL.

Q Is there a possibility to change the color of the LCH background from black to white?

A This functionality will be included in the "want" list.

Q Are there zooming capabilities?

A This functionality has been included in the "want" list.

Q Why doesn't LCH cover Alaska?

A LAMP and CCFP are both existing weather products. Currently, neither product provides coverage of Alaska.

Q There is some concern that the Operational Information System (OIS) Terminal Aerodrome Forecast (TAF) weather comments may make the FAA and customers oppose the TAFs without providing the Weather Forecast Office (WFO) a chance to change their TAFs at the end of the day. National Weather Service (NWS) and the FAA are the only organizations that have an official say with TAFs. Are we relying on the planner to make the final decision on what should be discussed on the SPT?

A The OIS TAF comments will allow the information to be available for discussion prior to the SPT for OIS system users.

Q Is it possible to extend LAMP coverage?

A Extended LAMP coverage may be a future consideration. At this time, LAMP coverage will remain as is.

Q How is the LCH going to influence GDP?

A The results of the LCH demonstration and evaluation this summer may yield information to allow the LCH to influence strategic planning up to 25 hours in advance.

Q What are the planned or expected actions for certain weather "trigger points" or problem levels?

A This will be determined after a successful demonstration and evaluation.

C The ability to change the color or transparency of the different boundaries was suggested.

A This functionality will be included in the "want" list.

Q Will LCH run all year?

A Yes, the LCH will run year round even though the CCFP does not.

Q What type of conversation do you think will be generated if there is a scenario where LAMP is outside a CCFP box?

A LAMP and CCFP look at convective forecasts in different ways and utilize different sets of data. Many types of conversations are anticipated to be brought up during the demonstration and evaluation.

Q Could organizations other than Sys Ops have mandatory training?

A All operators and FAA organizations are strongly encouraged to take the training.

Q Could a Radar frame be added on the LCH?

A This functionality has been included in the "want" list.

Q What is the LCH resolution?

A Thunderstorm forecasts are issued on a 20 km grid.

Q Could smaller CCFP boxes come out of the study? Basically, could this product affect the size of the new CCFP boxes. And if so how would this change verification?

A It is too early to respond. The demonstration and evaluation phase has not begun.

Q The addition of Very High Frequency (VHF) Omni-directional Radio Range (VOR) data to the LCH map was suggested.

A This functionality will be included in the "want" list.

Q What is the context of severity for convection threshold?

A LAMP updates MOS by utilizing the latest observational data (Aviation Routine Weather Report (METAR), lightning, and radar), Global Forecast System (GFS) MOS forecasts, output from simple advective models, and geo-climatic data (hi-res topography and relative frequencies).

Q Are the TAFs available now on the OIS?

A The ability to place TAF comments on the OIS has not yet been added as of April 22.

SURFACE CDM SYSTEM SUB-TEAM (SCT) BREAKOUT SESSIONS

Marshall Mowery, SCT FAA Lead, and Tim Reid, SCT Industry POC, Dave Hogg, EUROCONTROL, presented on Surface CDM topics including the Surface CDM System (SCS) being developed by the SCT and EUROCONTROL's Airport CDM (A-CDM) process.

SCT Breakout Session Discussion Q & A

Q ***(To Dave Hogg / Eric Miart, EUROCONTROL Action Plan 26 Lead)***: Have you noticed reductions in En Route restrictions as a result of A-CDM implementation?

A ***Eric Miart***: Yes, predictability has also improved. An increased confidence in Air Traffic Control (ATC) has contributed to this improvement.

Q ***(To Dave Hogg)***: Under A-CDM, are slots allocated per operator?

A ***Dave Hogg***: In Europe, some flights are slot-regulated and some are not. If a flight has a 10:00AM departure slot and its Controlled Takeoff Time (CTOT) (similar to an EDCT) is at 11:00AM, Air Traffic control will send a Target Start up Approval Time (TSAT) of 10:45AM, but will continually work to improve this slot time. Also, when flights cannot make slots, airlines are encouraged to be prompt about sharing this information.

Q ***(To Chris Forshier, Sensis Corp.)***: If the filed departure fix for a flight changes, will this be updated in Aerobahn?

A ***Chris Forshier***: Yes.

Q ***(To Chris Forshier)***: Does Aerobahn improve deicing operations?

A ***Chris Forshier***: Yes.

Q ***(To Marshall Mowery):*** Would any airport authorities use this type of a surface system?

A ***Marshall Mowery:*** The Minneapolis-St. Paul International Airport Authority and the Port Authority of New York and New Jersey both use surface systems.

Q ***(To Marshall Mowery)*****:** Does this facility have to be run by an operator? (In response to the existence of a ramp management facility being listed as criteria in airport selection)

A ***Marshall Mowery****:* No, this requirement is not limited to an operator-run ramp management facility.

Q ***(To Marshall Mowery):*** Your group has looked at several existing products during your site visits. Is your group planning on developing a product of its own?

A ***Marshall Mowery****:* No, our tasking is to define the requirements for a surface system. The SCT has not been tasked to develop any products.

C ***(To Marshall Mowery):*** It almost appears as if you are competing with the vendors of existing surface systems.

A ***Marshall Mowery****:* The set of requirements our group generates may very well fit one of the existing systems, which may lead to the selection of an existing system.

C ***(To SCT)****:* Your biggest challenge will not come from a technical standpoint, it will be operational. There will be a big wall that divides the movement and non-movement area if the FAA controls the movement area and the operators control the non-movement area. Nobody thinks the FAA should control the gates, but there will need to be a seamless integration of information and this will require an operational change. The technical part is easy.

A ***Marshall Mowery****:* The primary factor is not developing the tool itself, but the operational changes and collaboration processes that will need to be implemented.

Q ***(To SCT)****:* Will these Breakout Session presentations be uploaded to the CDM website?

A ***Marshall Mowery****:* Yes, the presentations and meeting summaries will be places on the web site (http://cdm.fly.faa.gov/).

A ***Dave Hogg****:* There is a great deal of documentation on the EUROCONTROL A-CDM website as well. This documentation includes information on the stages of A-CDM that each airport is currently in.

Q ***(To SCT)****:* Is the SCT trying to build a pilot version of A-CDM here in the United States?

A ***Tim Reid****:* No, we have stayed within the scope of our current tasking (defining requirements for a Surface CDM System, which does not specifically revolve around A-CDM operations). We have European guests here with us to provide lessons learned and help us begin to harmonize terminology. We have not been tasked to implement A-CDM here in the United States. Our situation here is different.

A ***Marshall Mowery****:* We may eventually come up with a model that is somewhat of a hybrid. Part of Action Plan 26 involves harmonizing terminology and procedures with EUROCONTROL A-CDM.

Q ***(To Dave Hogg)****:* When Munich Airport implemented A-CDM, we heard there were problems in system logic and with network connections during the startup. Is it getting any easier now that there are 4 airports online?

A ***Dave Hogg****:* There were initially bugs in terms of providing data to the Central Flow Management Unit (CFMU), but we are fixing these issues. As more and more airports come onboard, there will be fewer and fewer problems. From a local standpoint, there are no major problems at Munich Airport. The partners at the airport buy into the A-

CDM concept (Munich Airport is the flagship of A-CDM). Other airports still tend to face significant political issues. The hardest part is getting started.

Q ***(To Dave Hogg):*** Are the airlines embracing A-CDM?

A ***Dave Hogg:*** The airlines see the benefits and want to see A-CDM implemented.

Q ***(To Dave Hogg):*** Are foreign carriers embracing A-CDM?

A ***Dave Hogg:*** Any carrier with flights from say the United States will have a local representative to sit in on the Airline Operators Committee (AOC).

Q ***(To Dave Hogg):*** So what is the biggest problem in getting A-CDM started?

A ***Dave Hogg:*** The biggest challenge is getting one of the partners to take ownership to drive the project. Often times it comes down to "who is paying for it". The Airport Authority pays the majority, but they will make this money back.

Q ***(To Tim Reid):*** Will any of the data provided by an SCS be available to the NAS Operators?

A ***Tim Reid:*** Absolutely. We would like to give the data provided by a SCS to all the partners at an airport.

Q ***(To Marshall Mowery):*** Have you considered incorporating wind profile data into the requirements for the SCS?

A ***Marshall Mowery:*** Yes. We have included a requirement to interface with Integrated Terminal Weather System (ITWS).

Q ***(To Marshall Mowery):*** Have you selected an airport for implementation of a prototype SCS?

A ***Marshall Mowery:*** The SCT has not yet selected an airport (to recommend to the CSG). The SCT is currently focused on defining the criteria for airport selection and completing the Functional Requirements Document.

Q ***(To Tim Reid):*** You mentioned departure queue management. Does this involve keeping a departure queue under a specific size?

A ***Tim Reid:*** Yes. This concept also allows operators to prioritize where individual aircraft would be placed in a queue. Queue management would reduce fuel cost and environmental impact.

Q ***(To Tim Reid):*** What is the bridge between the management of a surface system and the rest of the NAS?

A ***Midori Tanino, System Operations Services Programs Office (AJR-4):*** The En Route and Terminal branches of the Air Traffic Organization (ATO) are currently working to identify the types of data that needs to be exchanged.

A ***Tim Reid:*** We would plan on feeding the data from our surface system to an En Route system.

Q ***(To Tim Reid):*** Do you have requirements on how "near real-time" your (aircraft position) data would need to be?

A ***Tim Reid:*** The data provided by a surface surveillance system would be real-time.

PANEL DISCUSSIONS

Nancy Kalinowski, Vice President System Operations Services, welcomed the attendees to the second day of the Spring 2009 CDM Meeting and discussed the history of CDM as well as the progress achieved through the hard work and cooperation of the customers, FAA and developers.

Lorne Cass, Industry CDM Lead, thanked Nancy for her continued support of CDM. Lorne stated that it is through this support that CDM is possible. Lorne further discussed the history of CDM and its origins in the FAA – Airline Data Exchange (FADE) program. He also recognized the hard work and dedication to CDM of Bill Leber, former FCT Industry POC. Mark Libby echoed these sentiments.

CDM UPDATE

Mark Libby provided an update on the state of CDM. Recently there has been a push within CDM for more formalization, including development of advance meeting schedules, budgets and timelines for all projects. The advance meeting schedules can be found on the CDM web site.

CDM has been varying Sub-team meeting locations in an effort to reduce travel costs for Industry Sub-team members. Mark Libby encouraged operators and FAA field facilities to send as many local personnel as possible to meetings.

Mark explained the creation of a Programs Office representative role for each Sub-team. This was done to both ensure proper FAA interaction with developers and other contractors as well as to increase the involvement of the Programs Office within CDM activities.

In the past year, semi-annual CDM Leadership Summits have been initiated as well as monthly CDM Leadership Telcons. These are used to plan future CDM activities and discuss existing projects. The next CDM Leadership Summit is scheduled for September 2009.

Alternate Lead and POC positions have been established for all CDM Sub-teams. The FAA Sub-team Leads and Industry Sub-team POCs work closely with their Alternate Lead and Alternate POC to ensure that the Alternates are ready to step in if the Lead or POC is unable to fulfill their duties or must leave the Sub-team.

There is a strong focus within CDM on information sharing, and many CDM activities revolve around this effort. Mark Libby encouraged all attendees to notify him if they would like to be added to the CDM Newsletter distribution list.

The CDM Leadership is working to increase participation of AJE and AJT in the CDM process. Volunteers from both Services have been requested. Union subject matter experts (SMEs) are currently participating on both the FET and SCT. SMEs from outside of AJR are wanted as well. Volunteers are also being requested through SUPCOM and both Mark Libby and Lorne Cass will speak at an upcoming SUPCOM convention.

There is a strong push for Mark and Lorne to speak to operator corporate executives to garner greater support from operators and communicate the importance of operator participation in all CDM meetings.

Bi-weekly CDM updates are being sent to Nancy Kalinowski as well as AJT and AJE.

A CDM Industry Panel has been created for the National Traffic Management Course 50113. Four hours are devoted from each course to discuss Traffic Flow Management (TFM) and the impacts of CDM. Mark and Lorne provide a presentation introducing CDM to the attendees during each course.

As of April 16, 2009 unmasked Aggregate Demand List (ADL) data was released. Mark highlighted the progress under CDM. 14 years ago, NAS stakeholders spent significant time discussing the merits of simply sharing data; with this latest development operator data is being shared without carrier identifications being masked. As part of unmasking ADL data, all CDM participants were asked to sign a new CDM Memorandum of Agreement (MOA). A problem has been identified with aircraft with November call signs, but it is being addressed. If any operators are encountering technical problems they should contact the TFMS Help Desk.

Recently the list of CDM participants was reviewed and those who were not providing data or were operating under improper MOAs were either moved to the proper MOA or removed from the data feed.

Allegiant Air has recently signed a CDM MOA and participated in an Introduction to CDM telcon.

CDM developments are now being included in the ATO business plan. Integrated Collaborative Rerouting (ICR) has been included as part of the Collaborative Routing goal. This goal has two parts, increased training for ICR and the expanded use of ICR in both 2009 and 2010. Training of ATCSCC Specialists for the 2009 updates to ICR has been completed. Sharing of surface data through CDM has also been included in the ATO business plan through 2011. The SCT is developing recommendations for model airports at which to test a prototype SCS as well as proposed initial functional requirements of the SCS.

Mark discussed how it appears CDM will fit into Goal Area 1, 3 and 4 of the proposed ATO 2013 5 Year Business Plan goals. Ellen King, Acting Director System Operations, provided a quick briefing on the ATO 2013 Business Plan goals and where the development of these goals stands. Ellen informed the attendees that the release of the Business Plan has been delayed, but still may see implementation during 2009.

Mark Libby briefly discussed how CDM fits into FAA – EUROCONTROL Action Plan 26. Action Plan 26 is the only fully funded action plan between the FAA and EUROCONTROL. The two pieces of Action Plan 26 that relate to CDM are the Surface Collaborative Decision Making plan and the TFM Capacity Enhancement plan. FAA efforts for the Surface CDM portion of Action Plan 26 will be led by Mark Libby and Marshall Mowery and will focus on movement towards harmonization of acronyms and procedures between CDM and A-CDM. FAA efforts for the TFM Capacity Enhancement portion of Action Plan 26 will be led by Mark Libby and Pat Somersall and will focus on efforts to increase throughput in adverse weather, research of delay reduction techniques, identification of best practices and potential areas of collaboration between CDM and A-CDM, and improved planning techniques.

Nancy Kalinowski emphasized the need for global harmonization and the importance of continued work with international partners. Nancy praised CDM for acting as early pioneers in addressing both the environmental impact of traffic management and the need for interaction between the FAA and international organizations. Nancy also thanked the international representatives for their cooperation and commitment.

Mark Libby informed the attendees that just as EUROCONTROL representatives have attended a number of CDM Meetings in the US, FAA and customer representatives have attended an A-CDM Annual Meeting and would like to return in the future.

Major CDM goals for 2010 include the Collaborative Training and Collaborative Planning initiatives. The Collaborative Training initiative builds on the past success of the 50113 Course CDM Industry Panel, Flow Evaluation Area (FEA) / FCA field training, and the CDM Strategy Sessions (CDMSS). Under the Collaborative Training initiative, a CDM Training "Road Show" will visit FAA field facilities as well as customer facilities to hold collaborative training sessions. These sessions will bring the customer and FAA together to not only learn new tools and procedures but to also gain better understanding of the issues faced by other NAS stakeholders. It is also being planned to use these Training Road Shows as a method of increasing interaction between CDM, AJE and AJT. The Collaborative Planning initiative will harness the opportunity provided by recently completed or currently developing modeling tools such as Integrated Program Modeling (IPM) and RRIA and improved forecast tools such as the LCH prototype to increase the effectiveness of strategic planning. Under the Collaborative Planning initiative, a full-time National Planning Position would be created and staffed by ATCSCC Specialists trained in the use of these tools. The National Planner would lead SPTs and planning efforts out to 24 hours in advance. Mark stressed the need for strategic planning to be a continuous process.

CDM STATE OF THE INDUSTRY

Lorne Cass provided the meeting attendees with a briefing on the state of the aviation industry and aviation operators. Lorne stressed the importance of the international transportation system, the support for this system needed from all NAS stakeholders, and the desire from passengers for this service to be provided.

Lorne stressed that all customers are being impacted by the current economic cycle, be they airlines or general aviation interests. The state of the economy increases the need for interaction between the FAA and operators.

He provided the attendees with statistics detailing operator business in 2009. In 2009 commercial airline revenue has decreased 8 – 12 % while capacity has decreased 6 – 8 %. Fuel prices have also decreased with the price of Jet A dropping 57 %. For business aviation, the number of operations nationwide decreased approximately 23 % during March 2009 when compared to March 2008. Lorne informed the participants that the decrease in the cost of fuel has provided significant relief to customers and though losses are still the norm, some operators posted profits during the first quarter of 2009. However, with the good news comes the realization that approximately 27,500 jobs were lost in the airline industry during 2008.

Lorne suggested that possible relief can be provided to airlines by the FAA in the near term through "NowGen." NowGen is a generic term for stepping stone projects towards NextGen. If CDM NowGen efforts can provide operators with increased predictability of capacity distribution, large economic benefits will be achieved for operators. He stressed the need for CDM to demonstrate the benefits of investment in new technologies and CDM processes to operators to ensure participation on a large scale.

Operators have a number of concerns with some NowGen issues. One such issue is the integration of TMA and time based metering with CDM philosophies. CDM has provided operators with a voice in the system and TMA does not. Operators do not want to lose that input.

Lorne cautioned that as NextGen and SWIM are developed, an effort must be made to ensure that the principles of CDM are not lost. CDM and TFM must be viewed as critical components of NextGen to ensure customer concerns and issues are not overlooked. Prior to CDM, information and direction was pushed from the FAA to customers. Through CDM the NAS has moved towards the NextGen goal of operators flying to match their individual business plans which will lead to increased efficiency and safety in the NAS and happier travelers.

He stressed the importance of Surface and A-CDM to operators and the need for continued growth of Surface CDM into a formal program as well as the continuation of the current global harmonization effort.

SURFACE AND AIRPORT CDM PANEL

Panel facilitator: Lorne Cass

Panel members included: Eric Miart, Dave Hogg – EUROCONTROL, Matthias Groppe – Lufthansa City Line, Tim Reid – NWA, Marshall Mowery - FAA, and Carl Calcasola – FAA

Airport CDM Network Impact Assessment (presentation by Eric Miart)

Lorne Cass welcomed Eric Miart for a brief presentation on A-CDM. Lorne stressed the amount CDM could learn from A-CDM in terms of improving surface operations in the United States. The collaboration sponsored by Action Plan 26 is leading the way for this effort.

Eric Miart thanked the FAA, Lorne Cass, Mark Libby and Marshall Mowery, among others, for the opportunity to once again participate in a CDM Meeting.

Eric stressed that EUROCONTROL acts as a facilitator for cooperation between European aviation interests and as a harmonizer of the European aviation system. EUROCONTROL is also participating in harmonization efforts worldwide through ICAO and Action Plan 26.

Dave Hogg stressed that for A-CDM to work in Europe, a flagship airport is needed. Major airports that have instituted A-CDM in the past few years (Munich, Brussels, Heathrow, Zurich, and Amsterdam) have demonstrated as much as a 9 to 1 return on investment.

A EUROCONTROL study has shown significant increase in take-off time predictability when A-CDM is implemented. This has led to an increase in en route capacity as well. Projections detailed in the study estimate that if 42 European airports implement A-CDM there will be an approximate increase of 4 % in en route capacity.

The EUROCONTROL CFMU is working with decision aid tools to feed more accurate data which will lead to better planning information. This effort could help planning from as far in advance as six months down to the tactical level.

Eric summarized his presentation by highlighting other potential benefits of A-CDM implementation, including: increased flight efficiency, delay reduction, improved safety, increased operator freedom to apply individual business model, and improved predictability.

The next steps for EUROCONTROL with A-CDM include identification of the minimal set of airports necessary to reap significant system benefits, evaluation of these benefits, and evaluation of the environmental impacts of any changes.

Q Has anyone in A-CDM performed analysis of effects on ETE?

A (Eric Miart) No. That will be part of the next step for A-CDM. The connection between A-CDM and benefits to en route problems system wide is not very well understood at this time.

Dave Hogg urged attendees to not only learn from the positive example set by A-CDM but from the mistakes made as well. The biggest problem that A-CDM continues to struggle with is politics. There has been difficulty in the past finding an organization to take ownership of a project and to lead and fund the efforts. Whoever takes the leadership role, the project must stay focused, maintain open communication, and institute a solid process and procedure.

Matthias Groppe provided a pilot's perspective on A-CDM. Harmonization of acronyms is critical in Europe as there are approximately 100 different airports, many of which use different terms than any others. Pilots must be aware of the differences at each airport and learn to adapt. Improving the situational awareness of the pilot has also become a critical issue from their point of view.

SCT Briefing

Marshall Mowery provided a quick overview of the current status of the SCT. The SCT is in the final stages of completing its initial tasking from the CSG. The SCT is finalizing the SCS Functional Requirements Document (FRD) and recommendation for a trial airport(s) for the SCS.

Currently CDM does not have effective planning tools or information for surface operations. The SCT is working to provide all CDM participants with a better product for surface operations and to change the culture that currently exists among the involved partners.

Recently the SCT has evaluated the Surface Management System (SMS) at UPS, FedEx and a more advanced version created by NASA. The SCT also visited EWR and JFK and was provided the perspective from these airports, Continental Airlines (COA), Delta Airlines (DAL), and the Port Authority of New York and New Jersey (PANYNJ).

Carl Calcasola stated that as a Terminal Traffic Manager, the SCS would allow him to provide better service to his customers.

Tim Reid stated that there is a lot of existing data available to be used in the SCS. The challenge is collecting that data and prioritizing the base requirements for the system. The benefit will be increased predictability for departures, arrivals, and en route operations.

Eric Miart stressed his belief that there must be one person in the lead role for development an implementation of the SCS at each airport. Eric recommended that this lead position should be filled by someone from ATC or the airport authority.

Q A significant concern in the US is who pays for any new system. How is that managed in Europe?

A (Eric Sinz) From the Munich perspective, the German ATC provider DFS and the airport shared the cost while DFS lead the team. By keeping a small, focused team, the cost was minimized. At Frankfurt the project leadership is being shared between DFS and the airport.

Mark Mathis, EUROCONTROL, stated that at the end of the 90's Europe was facing significant queuing problems due to an old fashioned infrastructure. A study was performed by an airport authority that showed the best option for improvement was collaboration between all stakeholders.

Q Is there an SCT plan for implementation of an SCS in the US?

A The current tasking of the SCT is to describe the base requirements for an SCS and Surface CDM process. Once the requirements are finalized and submitted the SCT should receive new tasking.

Lorne Cass emphasized the importance of identifying the base set of data that will be needed for an SCS.

Q In Europe, most ramps are owned by airports while here they are typically owned by the airlines. How will that difference be overcome?

A (Tim Reid) When we talk about harmonization, we are talking about looking at the things done well under A-CDM that will work in our environment. Ownership of the ramp areas is probably not going to change in the US, but we will have to find a way to make Surface CDM work anyway.

A (Eric Miart) In Europe, sometimes airports directly or indirectly manage the ramp, so the concept of airline management of ramp area is not unheard of. At Frankfurt, the airlines are involved in ramp management. The philosophy is simple enough to accommodate the unique situations that may be presented at a local level. The push is now to harmonize between EUROCONTROL and the FAA at least 100 airports with the current milestone being harmonization of 16. The overall goal is to harmonize world wide with ICAO.

Q In CDM, the FAA has the final say in any decisions that are made. The FAA also has the final say in ATC and TFM operations. In Europe, who has the majority vote?

A There is a commission looking into this issue right now. A position known as an Air Traffic Management (ATM) Manager may be created. Whichever entity is asked to staff this role will have the majority vote.

Q The conversation so far has been focused on moving airplanes on the ground. Is there any consideration for moving other things such as fuel trucks, deicing trucks, etc.?

A (Dave Hogg) At the end of the day the goal is to move aircraft more efficiently. However, other vehicles must be involved in the Surface CDM process as well.

Q Is safety being considered by A-CDM?

A (Eric Miart) For overall management of the movement area we rely on our version of Airport Surface Detection Equipment Model X (ASDE-X). We have a set of 100 procedures for surface operations with 20 being devoted to procedures for drivers of vehicles other than aircraft. If you request we can provide more information on that.

A (Eric Sinz) All surface non-aircraft operations have rules and guidelines on exactly what they should do. By allocating push back trucks and knowing better TSAT we have decreased their buffers.

A (Peter Tomlinson, Heathrow) Under A-CDM we've reduced finger pointing. Everyone knows when they are expected to do things. A completely unexpected benefit we've seen is a reduction in the cost of overtime for ground handling operations. Previously there were occasions where ground handlers would be sent out for aircraft that had not arrived and have to wait, sometimes incurring large overtime costs. This issue has been significantly reduced.

C (Lorne Cass) We have also seen a significant reduction in pointing fingers through CDM. We found that we were often shooting ourselves in the foot before we even got to the FAA.

C The real conversation isn't whether or not we can mimic what Europe is doing, but whether this effort for Surface CDM can provide benefit. Not only have we been able to show that through the Atlanta ASDE-X replay, we can show that common awareness provides significant benefit.

A (Lorne) I agree. We have seen this at Northwest Airlines (NWA) and have also found that front line users find more ways to use the data than we originally envisioned.

Q Do you have the capability to playback surface data in Europe?

A (Eric Sinz) Yes, we are constantly reviewing data. Every year we do post analysis and we publish yearly reports on our CDM portal.

TMA PANEL

Panel facilitator: Pat Somersall

Panel members included: Rob Draughon – TMA Workgroup Lead (FAA), Danny Vincent – FAA, Jay Conroy – FAA, Jimmy Coschignano – FAA, Joe Rather – FAA, Gary Tigert – FAA, Mark Hopkins – Delta Airlines, Ed Gannon - FAA, and Charlie Mead – American Airlines

Pat Somersall explained some of the history of TMA. TMA was initially developed in En Route and Oceanic Services and on April 25 will be brought under the System Operation Programs Office.

Rob Draughon introduced the panel and wanted to give credit to Rebecca Guy who is taking over the role of Program Office Lead for TMA and was unable to attend.

A briefing was given showing the differences made by the implementation of TMA.

Rob informed the attendees that airport throughput has very consistently shown a 4 – 8 % increase during TMA operation. The effect on the customer is critical though. At Charlotte –

Douglass International Airport (CLT), total delay minutes increased by 10 – 12 %. Missed connections have increased as well. The TMA WG is working with customers to find collaborative solutions to these and other issues.

It has been identified that some flights are receiving double delays when GDPs and TMA are instituted simultaneously.

Q Will guidelines be developed for the interaction of low rate GDPs and TMA?

A There is ongoing evaluation of what is going on at EWR. Work is being done with COA on potential solutions. The double delays tend to appear only when low rate GDPs are implemented simultaneously with TMA. GDPE has become involved in this work due to the double delay issue. In the long term, automation is being developed to help solve the problem but no short term guidelines have been developed as of yet. Research is also being performed on exempting close in flights from GDPs implemented at Las Vegas-McCarran International Airport (LAS) but analysis of the results has not yet been completed by MITRE/CAASD.

Q When we're encountering airborne holding, at what point do we decide to suspend TMA operations?

A Metering out of holds is a learned experience. If conditions are relatively stable, we should be able to run TMA for hours without human intervention. There has been hesitancy to set the tool for the real conditions.

Q When you developed TMA, did you have precise targets for improvement to distance flown, delay accumulated, and so on?

A We wanted to optimize each runway based on what the runway could handle for the current conditions. We've found that at some airports the TRACON can absorb quite a few airplanes. We are now looking at what can be absorbed across the system.

A Our major goal at the beginning of TMA was increasing the throughput at the airport without increasing the workload.

Q Right now TMA is airport specific. In the future will we perform metering on a single flow for multiple airports?

A The technology exists today but we have not expanded use that far. We have that capability through the En Route Departure Capability (EDC) functionality of TMA. We can set up a meter point to whatever constraint we want. There is some thought to couple airports through a point but we've also looked into metering to special events.

C There is an equity issue to metering to multiple airports on one flow.

Q We hear frequently on SPT that TMA buffers are set too high, too low, change frequently, etc. How are those set and who sets them? Will there be an increase in guidelines for how buffers will be set during an event and who will set them?

A Buffers are set on a dynamic basis, but should not be changing every few minutes. We are working for increased consistency.

Q Can we evaluate the data we're pulling from TMA and determine what a "good day" is?

A We've been pulling what seems to be "good data" from TMA but it is not really good data. We will be working with the customer to develop performance metrics to determine good days and bad days for TMA operations.

C From the industry perspective, TMA has potential to be a great tool with potential to increase efficiency and throughput, as well as to reduce fuel burn. However, currently we are seeing a significant increase in delays for close-in flights. The Department of Transportation (DOT) measures airline performance based on percentage of arrivals within 15 minutes of scheduled time of arrival. If a flight drops below 40 % it goes on the "list of shame" which is distributed to the media and the airline is hit with fines. The double delays incurred during simultaneous interaction between TMA and GDP have started putting flights on this list. We need to work to resolve this double delay issue. Atlanta and Jacksonville have been working hard to get flights that are on this list off and into the overhead stream. We think we can help alleviate this situation by providing data to the system to let it know if a flight will be on time or late. The other issue is the increase in missed connections during TMA operations. When "close in" flights are delayed and come in late, many passengers will miss connections. Missed connections have increased over 300 % for these flights. Work needs to be done to resolve this issue.

Q Can you discuss the components in the improved trajectory prediction being worked on?

A We are working to improve trajectory modeling within the TRACON area. One potential benefit will be the possibility of accelerated arrivals. In these situations, if there is a slot available in front of an aircraft we'll go ahead and give that to them.

Q What is the schedule for integrating TMA and getting TMA information to users so we can see what is going on?

A We just created a joint TMA / GDPE Sub-team to look at integration of TMA with AFPs and GDPs and how TMA will fit into the TFM environment. We are also looking at the possibility of feeding data to operators right now, but we will need letters of agreement and answers to some of our current questions and concerns.

A FedEx operations in Memphis are being used as a prototype for sharing TMA data. There is no timeline for when we'll open up the feed in other places.

A (Steve Vail, FedEx) When we started receiving TMA data it was overwhelming. You do not receive a display or an integrator. We are currently trying to integrate it into our system and are undergoing a learning process. What we need to figure out is how we, as customers, can set up TMA to be successful in increasing system efficiency to everyone's benefit.

Q A year ago at the Spring 2008 CDM Meeting we heard talks of turning TMA off during severe weather. Is that still part of the thinking?

A During severe weather we are currently turning it off for the most part.

A (Brian Beck, Houston ARTCC) A year ago if there was weather within 200 miles of TMA, we would stand down. Now any time we can use it we do.

A We may take times off the glass during severe weather, but we will still be using the tool to manage the airport. TMA will not be turned off as it was in the past.

Q Are dynamic adaptations being considered?

A (Steve Lent, Flatirons Solutions) I think that's a midterm goal to be included in Time Based Flow Metering (TBFM) as opposed to a short term goal.

Q We waited long time to get TMA at every center. Adaptation was introduced and we had to wrap our heads around that and what that meant. It's not just adaptation, it's how individual facilities go in and tailor it to their operation…I'm hearing that adaptations at some places are very complex. What are the barriers to smooth adaptation? And what level of performance can I expect?

A The FAA is in the process of training their teams at field facilities. Adaptation takes both time and money to pay the developer staff. Right now we are budgeted primarily for sustainment work. We are trying to get adaptations finished as quickly as possible. We are working to get to the point where we can have standard adaptations according to what we are doing at different airports.

Pat Somersall asked that attendees consider TMA, not just in terms of current operations but in terms of NextGen as well. TMA is a fundamental first step towards the future of time based metering and that is a positive step.

Mark Libby thanked the TMA Panel and TMA WG participants in particular. He also praised the efforts of the GDPE and TMA WG to work together for solutions to current issues.

ATO STRATEGY 2013 GOAL AREA 1 BRIEFING

Ellen King gave a briefing on ATO Strategy 2013 Goal Area 1. ATO Strategy 2013 sets the high level goals for the ATO through 2013. Goal Area 1 directs the ATO to "engage customers, partners and stakeholders." This is focused on collaboration between stakeholders and the FAA, hence the tie in to CDM.

ERAM BRIEFING

Kelly Moffitt – FAA, and Rob Williams – FAA, provided a briefing on ERAM. Kelly has been involved in testing and validation of ERAM at Salt Lake City ARTCC (ZLC). Text files were implemented to replace the Keyboard Video Display Terminal (KVDT) functionality. ERAM Version 1.2 will be released in September 2009. Connectivity to TFMS and TMA are both being considered.

ERAM has recently included the Safety Management System (SMS) process to help prioritize work. Once initial operating capability (IOC) is reached at Key Site there is a set time until the in service decision. ATO Safety must perform an evaluation. AJE will be provided time to mitigate issues. After this time period, a report is provided to the FAA Chief Operating Officer

(COO). When the COO provides approval the system can begin implementation. Currently the ERAM waterfall is being looked at. TMOs are encouraged to join the discussion.

Q What kind of connectivity will there be between ERAM, the En Route Information Display System (ERIDS), and external systems? Currently Traffic Management Coordinators (TMCs) must manually enter information. Is there a plan for ERIDS to automatically feed data into other systems?

A Currently there is not a formal plan, but methods for reducing workload caused by separate systems will be researched.

Q When will TMIs such as AFP or MIT be implemented during ERAM operations?

A We do not yet have specific plans on when we can begin implementing TMIs. ERAM will first be run during mid-shifts. When we determine ERAM is stable enough for a full load, we will attempt running ERAM during day shifts and TMI operations with ERAM on.

Q Does ERAM have a different look and feel for everyday flow compared to previous systems?

A Enhanced menus will be different, but in terms of work environment there won't be any changes.

Q On the KVDT replacement, will the stations be remote?

A The plan is to use remote terminals, but we don't know the schedule for this.

Q Are you aware of the problems that ERAM is having with regards to traffic counts?

A ERAM doesn't record traffic counts per se. Traffic count data will be fed through the Host. There is work to provide this data to the Operations Network (OPSNET).

CDM SUB-TEAM NEAR TERM ENHANCEMENTS PANEL

Panel facilitators: Tom St.Clair – FAA, John Martin – United Parcel Service (UPS)

Panel members included: Ed Gannon, Charlie Mead, Mark Hopkins, Pat Somersall, Dean Fulmer, Tom Fahey, Gary Dockan – US Airways, and Joe Dotterer - FAA

LCH Briefing

Dean Fulmer briefed the attendees on the LCH. Surveys and evaluations will begin on June 1, 2009. There have been some issues with the live feed. The LCH was developed by Volpe and is being hosted by AvMet. The LAMP was a totally automated product while the CCFP was a totally human interaction. Dean strongly encouraged all in attendance to take the training and fill out the surveys in September.

C (Marshall Mowery) We've had this up and running ATL for about a month. It seems like it will require little training.

Q Seems like it could be confusing from the airline perspective, but it all goes back to how it is trained. There may be some misconception as to what the tool is doing and some misinterpretation of "probabilistic forecasting." Do you think there will be some stumbling

and hurdles? The CCFP is a snapshot while the LAMP provides a two hour "smear." There is a lot of training and knowledge that will need to be passed on.

A We're used to seeing real live weather radar returns. This is the first time we're looking at a probabilistic forecast. There will be a learning curve for interpretation as we learn that a 40 % probability at 4 hours is not the same as a 40 % probability at 16 hours.

The LCH training will be released on May 1, 2009 as mandatory training. Though training will be mandatory, the LCH is still a demo product and the CCFP will continue serving as the only official weather product for SPTs. Customer training will be included on the CDM web site as well.

Integrated Program Modeling (IPM) Phase II Briefing

Ed Gannon provided a briefing on IPM Phase II. IPM has been in use for a while at the ATCSCC but with some limitations. IPM has allowed for modeling of programs and interaction between programs. After some reengineering, IPM Phase II will be included in FSM Release 8.8, to be released in mid-May, and will be accessible to anyone running FSM. The tool will allow modeling of AFPs, GDPs, and Ground Stops (GSs) and the interaction between them. This tool can be used to model strategic plans prior to implementation and should provide for more robust discussion during SPTs. This will mostly be an ATCSCC tool as the ATCSCC works to set the plan for a severe weather event. IPM Phase II required the unmasking of ADL data distributed via the CDM data feed. This led to the need for a revised CDM MOA.

Q Will customers be able to see the ATCSCC proposals in FSM?

A Not at this time. We are headed down that road, but for now the ATCSCC can share the program settings for you to model yourself.

Revised EDCT Change Request (ECR) Logic

It has been found that within the ECR tool, when the "unlimited" and "limited" options are utilized it is producing results that are very unfavorable. As a short term fix, Airport Acceptance Rates (AARs) were lowered. In FSM 8.8, field facilities will have the unlimited option removed as a temporary fix and AARs should return to normal.

Q Do facilities call the ATCSCC with all of their ECR requests?

A No, the facilities will still have the ECR tool. They will be able to use the Slot Credit Substitution (SCS) request, but if SCS fails to produce the times the facility will have to call the ATCSCC.

Revised Exempt Flight Logic

Previously, exempt flights received an EDCT of their submitted flight plan time plus one minute. Now exempt flights will be exempt from program delays. If the customer submits an Earliest Runway Time of Departure (ERTD) that is past the exempt time, they will receive a delay to meet their ERTD.

Q What happens if there are not enough flights to fill in the gaps?

A If too few flights are captured, demand will be shown above the arrival rate. This will indicate that the scope included in the program was not large enough and there is excess demand.

Q If an exempt flight is scheduled in a period that is over scheduled, will they still receive a delay?

A No, they will not receive a delay.

Ed Gannon explained the exemption issue further. When we say exemptions on GDPs, the exemptions are just for issuing delays. Everybody is still in the GDP and still has to apply those EDCTs, but we will not be issuing delays in addition.

Charlie Mead explained the customer need to move away from extended GSs as they do not give customers any predictability. If low rate GDPs could be used to come out of GSs earlier, it would provide great benefit to customers.

ICR Briefing

The planning process for ICR is changing in 2009. The Early Intent (EI) window is being expanded. Customers have been instructed to include ICR in the remarks portion of any ICR flight plan. Customers are currently training their personnel for this procedure. Training has been provided to AJR, AJE and AJT. The ICR flight plan remarks will be printed on flight strips so controllers are aware these flights should not be rerouted.

Q When will the new ICR process begin?

A The process should begin around May 15, 2009.

Override and Split AFPs Briefing

Split AFPs allow large AFPs to be broken down into smaller AFPs for more tactical adjustments. Such changes could be performed in response to a changing weather forecast and should make AFPs more flexible.

RNAV Routes

Q Will non RNAV routes continue to be used?

A /A routes will still be available.

Q Will the date for the change over to RNAV trajectories be provided to customers as soon as it is determined? Customers have work that will need to be performed before they can take advantage of the RNAV routes.

A Notification will be provided to customers as RNAV routes come closer to implementation. Supplemental training will also be released.

RS-CDR

Q RS-CDRs will not replace all CDRs?

A The number of CDRs will be reduced by about 80 % but some full route CDRs will continue to exist.

CDM Training Presentation

Gary Dockan provided a review of the 2009 CDM Industry Training to the attendees.

SYSTEM OPERATIONS PROGRAMS OFFICE AND TFM-MODERNIZATION PANEL

Panel facilitator: Pat Somersall

Panel members included: Mark Novak – FAA, John Shaffrey – FAA, Chris Burdick – FAA, Omar Baradi – FAA, Dan Horton – FAA, Tom St.Clair – FAA, and Gary Dockan – US Airways

Mark Novak introduced the panel. Tom St.Clair and Gary Dockan participated to add an operational perspective to the Program Office issues that were discussed.

Mark Novak began the discussion by reviewing where TFM stands today. TFM-M was broken into three phases. John Shaffrey explained that TFMS Release 2.1 provided the hardware backbone. TFMS Release 3 (R3) will provide software enhancements and should lead to better predictability, enhanced efficiency and an improved route algorithm. R3 is currently scheduled for a September 2009 deployment.

New Products and Enhancements

Technical Status Web Page

A Technical Status Web Page has been developed in response to an action item from the Fall 2008 CDM Meeting. This page will give FAA and CDM Members status updates on the technical system status.

Q Will the status lights on the Technical Status Web Page be automated? Will there be an automatic detection of failure or will somebody have to manually enter it?

A Eventually this process will be automated. In Phase 1 any changes in technical system status will be entered by operators at the Help Desk.

RRIA

Dan Horton provided a briefing on RRIA. RRIA will be released in TFMS Release 4 in April 2010. RRIA will provide the FAA with the capability to model reroutes and their impact prior to implementation.

RRM

There are some political sensitivities to some flights being unnecessarily displayed as non-conformant in RRM. There is also some concern with the response time that CSC has shown in fixing issues that were reported.

Action Item: Research why the CSC response time to Help Desk calls has at times seemed excessive.

Assigned to: Mark Novak

Advisory Threading

The Advisory Threading enhancement to the ATCSCC intranet page will better allow users to mine advisories for data as well as easier sorting of advisories. This enhancement will not be included in the OIS page as the OIS must be readable by the general public.

FSM 8.8

The FSM 8.8 Key Site is scheduled for Washington ARTCC (ZDC) during the second week of May 2009. IPM Phase II will be the major change in FSM 8.8.

Integrated Reporting Information System (IRIS)

Omar Baradi provided an update on IRIS. Deployment of IRIS Version 1.3 is scheduled for Winter 2009 to finish critical items.

Q Will there be a weather overlay in IRIS?

A A weather overlay will be available at various levels.

Q Will there be a capability to overlay AFPs, FCAs, etc. during replays?

A Yes. You can go back 45 days and replay AFPs, GDPs, GSs, etc.

Release Planning

Mark Novak explained the new TFMS Release cycle. When a product is scheduled for a release, it can be released any time during the 18 months leading up to the "release date." Formal Release 5 requirements will be developed by May 1, 2009.

Mark Libby has been tasked as a proxy for Ellen King to set the final operational priorities on TFMS Release requirements. Libby explained that the Air Traffic Flow Management Operations Team (ATFMOT) is helping him with this prioritization process. Items prioritized as high are sent to the Programs Office while medium and low priorities are sent to the work groups for clarification.

ATCSCC Automation Transition

Dan Horton explained the ATCSCC transition to the Vint Hill location. 75 servers and applications will be moved to the TFM Planning Center (TPC). Work will be completed by 2010. There may be some restrictions to systems as they are moved over.

CONTINGENCY PLANNING SUPPORT SYSTEM (CPSS) BRIEFING

Gary Tigert provided a briefing on CPSS. The concept is to allow a reduced non-radar flow to go through airspace without radar coverage. Currently in non-radar, non-communicative areas there are 10 MIT issued and no RNAV routes. Moving towards NextGen there is a push to reduce these. Training for the CPSS has been built and the SRM Document (SRMD) has been completed. A change has been made to the 1900.47C Contingency Plan Notice.

Action Item: Provide the Contingency Plan Concept of Operations document for placement on the CDM web site.

Assigned to: Gary Tigert

The CPSS will likely be shared just like the National Playbook. The CPSS will also be displayed on the ERID to ensure the controller can see it on his screen.

Q Are all routes populated for all of the en route facilities?

A Yes they are. Some facilities were not aware of what CPSS is.

Q Are we going to continue with table top exercises?

A Table top exercises will continue. The next one will likely occur in Memphis within the next six weeks.

Q Will the ACT 2 database still be maintained or does CPSS take its place?

A ACT 2 is a post analysis database and CPSS will not take its place.

Q A lot of customers have a backup facility, Airline Operations Center (AOC), or Strategic Operations Center (SOC) in case of prolonged outages. Is there any thought of having another location to move a facility to on a temporary basis?

A There is a facility planned for Atlantic City. The facility would be used for any field facility outages of three months or more.

July 2, 2009 is the scheduled date for implementation of the CPSS.

ATTENDANCE

Last Name	First Name	Organization
Evans	Mark	
Koogle	Richard	
Munn	Roderick	
Obrien	Michael	
Sowers	Joseph	
Mendoza	Sergio Paris	Aeronáutica Civil De Colombia
Tascón	T.C. Donall H.	Aeronáutica Civil De Colombia
Mitchell	Brittany	Air Routing Inc
Murray	Gregory	Air Routing Inc
Stevens	Jeff	Alaska Airlines
Deering	Robert	American Airlines
Mead	Charlie	American Airlines
Johle	Kevin	ARINC Direct
Haggerty	Ronald	ATA
Failor	William	AvMet
Phaneuf	Mark	AvMet
Simenauer	David	AvMet
Matthys	Marc	Belgocontrol
Forshier	Chris	Continental Airlines
Irwin	Brad	Continental Airlines
Kimmons	Kris	Continental Airlines
Klarmann	Richard	Continental Airlines
Loraine	Sandusky	Continental Airlines
Sandusky	Loraine	Continental Airlines
Barker	Paul	CSC
Berg	Rich	CSC
Church	Victor	CSC
Cullen	Francis	CSC
Liu	Mei	CSC
Sowers	Joe	CSC
Spencer	Amy	CSC
Spengler	Robert	CSC
Groppe	Matthias	Cstberlin
Cass	Lorne	Delta Airlines
Hopkins	Mark	Delta Airlines
Witucki	John	Department Of Defense
Sinz	Erik	DFS
Hogg	David	EUROCONTROL
Miart	Eric	EUROCONTROL
Nezer	Gus	FAA Central Service Center
Roetzel	Tony	FAA Central Service Center

Uhlenhaker	Ronnie	FAA Central Service Center
Enriquez	Felix	FAA Eastern Service Center
Swann	Kathy	FAA Eastern Service Center
Cound	William	FAA En Route and Oceanic Services
Deak	Matthew	FAA En Route and Oceanic Services
Golden	Mike	FAA En Route and Oceanic Services
Huglez	Kathryn	FAA En Route and Oceanic Services
Kaler	Curt	FAA En Route and Oceanic Services
Artist	Mike	FAA System Operations
Aslakson	Irving	FAA System Operations
Atchley	Andy	FAA System Operations
Atens	Steve	FAA System Operations
Bassett	Phillip	FAA System Operations
Baxter	Ernest	FAA System Operations
Bebble	George	FAA System Operations
Beck	Bryan	FAA System Operations
Benson	Michael	FAA System Operations
Burgan	James	FAA System Operations
Burns	Bill	FAA System Operations
Canton	Jason C.	FAA System Operations
Conley	David	FAA System Operations
Conroy	John	FAA System Operations
Cook	Bill	FAA System Operations
Davis	Archer	FAA System Operations
Deak	Janice	FAA System Operations
Dehart	Scott	FAA System Operations
Dotterer	Joe	FAA System Operations
Draughon	Robert	FAA System Operations
Enders	April	FAA System Operations
Everson	Bob	FAA System Operations
Ferguson	Gail	FAA System Operations
Follett	David	FAA System Operations
Fox	Eric	FAA System Operations
Foyle	Dave	FAA System Operations
Foyle	David	FAA System Operations
Fulmer	Dean	FAA System Operations
Gallo	Carmine	FAA System Operations
Gannon	Edward	FAA System Operations
Garza	Johnnie	FAA System Operations
Gay	Patricia	FAA System Operations
Guensch	Craig	FAA System Operations
Guth	John	FAA System Operations
Harrigan	Kendra	FAA System Operations
Harting	Steve	FAA System Operations

Hauth	Jeff	FAA System Operations
Hernke	Debra	FAA System Operations
Hokit	Mary	FAA System Operations
Johnson	Kerry	FAA System Operations
Johnston	Kevin	FAA System Operations
Juro	Gregory	FAA System Operations
Kervin	Richard	FAA System Operations
Khatcherian	Paul	FAA System Operations
King	Ellen	FAA System Operations
Larkinjr	Larry	FAA System Operations
Libby	Mark	FAA System Operations
Lutomski	Stephen	FAA System Operations
Macphail	Thomas	FAA System Operations
Mahilo	Alan	FAA System Operations
Moffitt	Kelley	FAA System Operations
Mowery	Marshall	FAA System Operations
Murphy	Mike	FAA System Operations
Ocon	Bob	FAA System Operations
Osborne	Steve	FAA System Operations
Price	Sharon	FAA System Operations
Rankin	Andy	FAA System Operations
Schneider	Ronald	FAA System Operations
Shaffrey	John	FAA System Operations
Sherman	Brad	FAA System Operations
Short	Ricardo	FAA System Operations
Somersall	Patrick	FAA System Operations
Sorrentino	Angelo	FAA System Operations
St.Clair	Tom	FAA System Operations
Stott	Mandy	FAA System Operations
Strickland	Warren	FAA System Operations
Tichenor	Jeff	FAA System Operations
Tigert	Gary	FAA System Operations
Vincent	Danny	FAA System Operations
White	Bill	FAA System Operations
Wray	Thomas	FAA System Operations
Zibrowski	Cheryl	FAA System Operations
Shakley	Gerry	FAA System Operations Administration
Holguin	Brian	FAA System Operations Airspace and AIM
Ray	Elizabeth	FAA System Operations Airspace and AIM
Dees	Pamela	FAA System Operations Planning And Procedures
Lautenschlager	Eric	FAA System Operations Planning And Procedures
Arch	Timothy	FAA System Operations Programs
Baradi	Omar	FAA System Operations Programs
Burdick	Christopher	FAA System Operations Programs

Cacioppo	Marty	FAA System Operations Programs
Ginsburg	Scott	FAA System Operations Programs
Gough	Mike	FAA System Operations Programs
Horton	Daniel	FAA System Operations Programs
Losee	Paul	FAA System Operations Programs
Nair	Kareena	FAA System Operations Programs
Nguyen	Jeanie	FAA System Operations Programs
Novak	Mark	FAA System Operations Programs
Sims	Danny	FAA System Operations Programs
Sud	Ved	FAA System Operations Programs
Tanino	Midori	FAA System Operations Programs
Wagner	Ross	FAA System Operations Programs
Kalinowski	Nancy	FAA System Operations Services
Alcala	Wiliam J.	FAA Technical Operations Services
Avery	Sherry	FAA Terminal Services
Calcasola	Carlo	FAA Terminal Services
Coschignano	James	FAA Terminal Services
Holmes	John	FAA Terminal Services
Ritchie	Constance	FAA Terminal Services
Tamburro	Ralph	FAA Terminal Services
Buck	William	FAA Western Service Center
Reeves	Mark	FAA Western Service Center
Allen	Daniel	FedEx
Beach	Andrew	FedEx
Vail	Stephen	FedEx
Lent	Steven	Flatirons Solutions
Risinger	George	Honeywell/Flight Sentinel
Dale	Russell	Human Solutions Inc
Gallego	John	Jet Blue
Nettey	Isaac	Kent State University
Jha	Pratik	Lockheed Martin
Leber	William	Lockheed Martin
Pickens	Andy	Lockheed Martin
Brennan	Michael	Metron Aviation
Doble	Nathan	Metron Aviation
Klopfenstein	Mark	Metron Aviation
Lehky	Miro	Metron Aviation
Evans	James	MIT Lincoln Labs
Meyer	Darin	MIT/Lincoln Laboratory
Ashley	Sue	MITRE/CAASD
Duquette	Michelle	MITRE/CAASD
Hullenberg	Joe	MITRE/CAASD
Cook	Lara	Mosaic ATM
Sheth	Kapil	NASA

Sridhar	Banavar	NASA
Bluem	Michael	NASA Ames
Tomlinson	Peter	Nats Co UK
Martin	Neil	NAV CANADA
Rose	David	NAV CANADA
Roy	Stan	NAV CANADA
Lamond	Robert	NBAA
Snell	Dean	NBAA
Stellings	Ernie	NBAA
Klenotic	Ron	Netjets
Winters	Dave	Netjets
Smith	Danielle	Norhtrop Grumman - TAC
Bernard	John	Northrop Grumman - TAC
Crowden	Gary	Northrop Grumman - TAC
Gilani	Daniel	Northrop Grumman - TAC
Harder	Todd	Northrop Grumman - TAC
Hoke	Rebecca	Northrop Grumman - TAC
Ketros	Arnol	Northrop Grumman - TAC
Li	Yong	Northrop Grumman - TAC
Bowe	Tammy	Northwest Airlines
Fahey	Thomas	Northwest Airlines
Olsen	Ed	Northwest Airlines
Reid	Tim	Northwest Airlines
Bock	Thomas	NY/NJ Port Authority
Smith	Phillip	Ohio State / CSE
Ward	Mark D.	OSG- ESC
Barry	Jim	Passur
White	Tom	Passur
Knight	Dana	Sabre Airline Solutions
Huegel	Carol	Sensis Corporation
Laster	Ed	Southwest Airlines
Ooten	Ron	Southwest Airlines
Stull	Tim	United Airlines
Wolford	Don	United Airlines
Martin	John	UPS
Roberts	Sherri	UPS
Sarver	Jeff	UPS
Dockan	Gary	Us Airways
Murphy	Bill	Us Airways
Elson	Don	Usaf Hqamc
Bair	Richard	Volpe
Curley	George	Volpe
Gilbo	Eugene	Volpe
Golibersuch	Michael	Volpe

Oiesen	Rick	Volpe
Rosenberg	Norman	Volpe
Jordan	Thomas	West Air Inc

ACRONYM LIST

AAR	Airport Acceptance Rate
A-CDM	EUROCONTROL Airport CDM
ADL	Aggregate Demand List
AFP	Airspace Flow Program
AJE	En Route and Oceanic Services
AJR	System Operations Services
AJT	Terminal Services
AJW	Technical Operations Services
AOC(1)	Airline Operations Center
AOC(2)	Airline Operators Committee (Europe)
AOV	Air Traffic Safety Oversight Service
ARTCC	Air Route Traffic Control Center
ASDE-X	Airport Surface Detection Equipment Model X
ATC	Air Traffic Control
ATCSCC	Air Traffic Control System Command Center
ATFMOT	Air Traffic Flow Management Operations Team
ATM	Air Traffic Management (Europe)
ATO	FAA Air Traffic Organization
CbTA	Control by Time of Arrival
CCFP	Collaborative Convective Forecast Product
CDMSS	CDM Strategy Session
CDR	Coded Departure Route
CFMU	Central Flow Management Unit (Europe)
CIWS	Corridor Integrated Weather System
CPSS	Contingency Planning Support System
CSG	CDM Stakeholders Group
CTA	Controlled Time of Arrival
CTOT	Controlled Takeoff Time (Europe)
ECR	EDCT Change Request
EDC	En Route Departure Capability

EDCT	Expect Departure Clearance Time
ERAM	En Route Automation Modernization
ERIDS	En Route Information Display System
ERTD	Earliest Runway Time of Departure
ETE	Estimated Time En Route
EUROCONTROL	European Organisation for the Safety of Air Navigation
EWR	Newark – Liberty International Airport\
FADE	FAA / Airline Data Exchange
FCA	Flow Constrained Area
FCT	Future Concepts of TFM Sub-team
FEA	Flow Evaluation Area
FET	Flow Evaluation Sub-team
FRD	Functional Requirements Document
FSM	Flight Schedule Monitor
GA	General Aviation
GDP	Ground Delay Program
GDPE	Ground Delay Program Enhancement Sub-team
GS	Ground Stop
HiTL	Human in the Loop
ICAO	International Civil Aviation Organization
ICR	Integrated Collaborative Rerouting
IOC	Initial Operating Capability
IPM	Integrated Program Modeling
IRIS	Integrated Reporting Information System
KVDT	Keyboard Video Display Terminal
ITWS	Integrated Terminal Weather System
LAMP	Localized Aviation MOS Program
LAS	Las Vegas-McCarran International Airport
LCH	LAMP/CCFP Hybrid
MIT	Miles in trail
MNT	Minimum Notification Time (SEVEN parameter)
MOA	Memorandum of Agreement

MOS	Model Output Statistics
N90	New York TRACON
NAS	National Airspace System
NBAA	National Business Aviation Association
NextGen	Next Generation Air Transportation System
NRS	Navigation Reference System
NWS	National Weather Service
OIS	Operational Information System
OPSNET	Operations Network
RBS	Ration by Schedule
RNAV	Area Navigation
RRIA	Reroute Impact Assessment
RRM	Reroute Monitor
RS-CDR	Route Segment Coded Departure Route
RTA	Required Time of Arrival
RTC	Relative Trajectory Cost (SEVEN message field)
SCS(1)	Slot Credit Substitution
SCS(2)	Surface CDM System
SCT	Surface CDM System Sub-Team
SEVEN	System Enhancements for Versatile Electronic Negotiation
SME	Subject Matter Expert
SMS	Safety Management System
SOC	Strategic Operations Center
SPT	Strategic Planning Telcon
SRM	Safety Risk Management
SRMD	SRM Document
SWIM	System Wide Information Management
TAF	Terminal Aerodrome Forecast
TBFM	Time Based Flow Metering
TFM	Traffic Flow Management
TFM-M	Traffic Flow Management Modernization
TFMS	Traffic Flow Management System

TMA	Traffic Management Advisor
TMI	Traffic Management Initiative
TMO	Traffic Management Officer
TMC	Traffic Management Coordinator
TOS	Trajectory Options Set (SEVEN message)
TPC	TFM Planning Center
TRACON	Terminal Radar Approach Control
TSAT	Target Start-up Approval Time (Europe)
UDP	Unified Ground Delay Program
VHF	Very High Frequency
VOR	VHF Omni-directional Radio Range
WET	Weather Evaluation Sub-team
WFO	Weather Forecast Office
ZDC	Washington ARTCC